

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended): A multicast communication path calculation method for obtaining multicast paths from a given source node to a plurality of destination nodes in a network including a plurality of nodes, the method comprising:

obtaining minimum delay paths from the source node to each of the plurality of destination nodes using topology information and delay information of the network;

selecting candidate nodes of a rendezvous point node only from nodes on one of the obtained minimum delay paths;

for each of the candidate nodes, calculating minimum delay paths from the candidate node to each of the destination nodes, and obtaining a difference between ~~[[the]]~~ a maximum value and ~~[[the]]~~ a minimum value among delays of the calculated minimum delay paths;

selecting, as the rendezvous point node, the candidate node for which the difference is smallest among differences for all of the candidate nodes; and

outputting, as the multicast paths, a minimum delay path from the source node to the rendezvous point node and minimum delay paths from the rendezvous point node to each destination node.

2. (Original): The multicast communication path calculation method as claimed in claim 1, wherein the minimum delay path on which the candidate nodes exist is one having maximum delay among minimum delay paths from the source node to each of the destination nodes.

3. (Currently Amended) A multicast communication path setting method, wherein a multicast communication path calculation apparatus calculates multicast paths from a given

source node to a plurality of destination nodes in a network including a plurality of nodes, and a multicast communication path setting apparatus establishes the calculated multicast paths on the network, wherein the multicast communication path setting apparatus sends a request to calculate the multicast paths to the multicast communication path calculation apparatus, and the multicast communication path calculation apparatus calculates the multicast paths according to the request by using a method comprising:

obtaining minimum delay paths from the source node to each of the plurality of destination nodes using topology information and delay information of the network;

selecting candidate nodes of a rendezvous point node only from nodes on one of the obtained minimum delay paths;

for each of the candidate nodes, calculating minimum delay paths from the candidate node to each of the destination nodes, and obtaining a difference between ~~[[the]]~~ a maximum value and ~~[[the]]~~ a minimum value among delays of the calculated minimum delay paths;

selecting, as the rendezvous point node, the candidate node for which the difference is smallest among the differences for all of the candidate nodes; and

outputting results comprising, as the multicast paths, a minimum delay path from the source node to the rendezvous point node and minimum delay paths from the rendezvous point node to each destination node,

wherein the multicast communication path calculation apparatus sends the output results to the multicast communication path setting apparatus, and the multicast communication path setting apparatus establishes the multicast paths according to the output results.

4. (Original): The multicast communication path setting method as claimed in claim 3, wherein each node in the network measures traffic state of the network and sends the measurement results to the multicast communication path calculation apparatus, and the multicast communication path calculation apparatus calculates the multicast paths according to the measurement results.

5. (Currently Amended) A multicast communication path calculation apparatus for obtaining multicast paths from a given source node to a plurality of destination nodes in a network including a plurality of nodes, the apparatus comprising:

a part configured to obtain minimum delay paths from the source node to each of the plurality of destination nodes using topology information and delay information of the network;

a part configured to select candidate nodes of a rendezvous point node only from nodes on one of the obtained minimum delay paths;

a part configured to calculate, for each of the candidate nodes, minimum delay paths from the candidate node to each of the destination nodes, and obtain, for each of the candidate nodes, a difference between [[the]] a maximum value and [[the]] a minimum value among delays of the calculated minimum delay paths;

a part configured to select, as the rendezvous point node, the candidate node for which the difference is smallest among the differences for all of the candidate nodes; and

a part configured to output results comprising, as the multicast paths, a minimum delay path from the source node to the rendezvous point node and minimum delay paths from the rendezvous point node to each of the destination nodes.

6. (Original): The multicast communication path calculation apparatus as claimed in claim 5, wherein the minimum delay path on which the candidate nodes exist is one having maximum delay among minimum delay paths from the source node to each of the destination nodes.

7. (Previously Presented): The multicast communication path calculation apparatus as claimed in claim 5, further comprising:

a part configured to receive the topology information and the delay information of the network; and

a part configured to store the received information in a recording medium,  
wherein the multicast communication path calculation apparatus calculates the multicast paths by reading the received information from the recording medium.

8. (Previously Presented): The multicast communication path calculation apparatus as claimed in claim 5, further comprising:

a part configured to include the output results in a multicast path setting control message, and send the multicast path setting control message over the multicast paths indicated by the output results.

9. (Previously Presented): The multicast communication path calculation apparatus as claimed in claim 5, further comprising:

a part configured to receive a request to calculate the multicast paths from a multicast communication path setting apparatus; and

a part configured to send the output results to the multicast communication path setting apparatus.

10-11. (Canceled)

12. (Currently Amended): A computer readable medium storing program code, which when executed by a computer, causes the computer perform a method of calculating for causing a multicast communication path calculation apparatus to calculate multicast paths from a given source node to a plurality of destination nodes in a network including a plurality of nodes, the method ~~computer readable medium~~ comprising:

~~program code means for~~ obtaining minimum delay paths from the source node to each of the plurality of destination nodes using topology information and delay information of the network;

~~program code means for~~ selecting candidate nodes of a rendezvous point node only from nodes on one of the obtained minimum delay paths;

~~program code means for~~ calculating, for each of the candidate nodes, minimum delay paths from the candidate node to each of the destination nodes, and obtaining, for each of the candidate nodes, a difference between [[the]] a maximum value and [[the]] a minimum value among delays of the calculated minimum delay paths;

~~program code means for~~ selecting, as the rendezvous point node, the candidate node for which the difference is smallest among the differences for all of the candidate nodes; and

~~program code means for~~ outputting results comprising, as the multicast paths, a minimum delay path from the source node to the rendezvous point node and minimum delay paths from the rendezvous point node to each of the destination nodes.

13. (Original): The computer readable medium as claimed in claim 12, wherein the minimum delay path on which the candidate nodes exist is one having maximum delay among minimum delay paths from the source node to each of the destination nodes.

14-22. (Canceled)